

What is claimed is:

1. A synthetic silica glass for use with light having a wavelength of 150 to 200 nm, which has an OH group at a concentration of less than 1 ppm, an oxygen-excess type defect at a concentration of 1×10^{16} defects/cm³ or less, a hydrogen molecule at a concentration of less than 1×10^{17} molecules/cm³, and a non-bridging oxygen radical at a concentration of 1×10^{16} radicals/cm³ or less in the state after the synthetic silica glass is irradiated with light of a xenon excimer lamp having an energy density of 10 mW/cm² and 3 kJ/cm².
2. A synthetic silica glass for use with light having a wavelength of 150 to 200 nm, which has an OH group at a concentration of less than 1 ppm, an oxygen-excess type defect at a concentration of 1×10^{16} defects/cm³ or less, a hydrogen molecule at a concentration of less than 1×10^{17} molecules/cm³, and a non-bridging oxygen radical at a concentration of 1×10^{16} radicals/cm³ or less in the state after the synthetic silica glass is irradiated with light of an F₂ laser by 10^7 pulses at an energy density of 10 mJ/cm²/pulse.
3. The synthetic silica glass as defined in claim 1 or 2, which has an oxygen-deficit type defect at a concentration of 1×10^{14} defects/cm³ or less.